

Superfund Records Center
SITE: CEC-NEW BEDFORD GAS
BREAK: 11.9
OTHER:

COM Electric

568650

New Bedford Law & Edison
Light Co. 699

Commonwealth Electric Company
2421 Cranberry Highway
Wareham, Massachusetts 02571
Telephone (617) 291-0950

May 15, 1986

rec'd 5/22/86

Gregory A. Roscoe
U. S. Environmental Protection Agency
P. O. Box 3254
Reston, VA 22090

Re: The Cannons Engineering Corp. site in Bridgewater, MA;
The Cannons Engineering Corp. site in Plymouth, MA;
The Gilson Road site in Nashua, NH; and
The Tinkham Garage site in Londonderry, NH

Dear Mr. Roscoe:

This letter with enclosures is sent to you in reference to your Mr. Merrill S. Hohman's March 28, 1986 letter addressed to Mr. Gerald E. Anderson regarding the above-captioned sites and as they relate to Commonwealth Electric Company (~~formerly known as New Bedford Gas and Edison Light Company~~). This is the follow up referenced in my letter to you of March 25, 1986.

The enclosed information request response and affidavit are complete. Based upon our findings (see transaction dated 1/22/80), there is some evidence that some quantity of good No. 2 fuel oil and tank washings may have reached the Cannon's Engineering Corporation Bridgewater, Massachusetts Facility. To the extent that this is shown to be true, we will consider involvement to some degree in negotiations participation. In order to reach a determinative answer, please provide us with a complete copy of all information you now possess relating to Commonwealth Electric.

In addition to the documents enclosed in response to the information request, we have several transaction documents that are unrelated to the Cannon's Engineering Corporation that cover Commonwealth Electric Company's cooperative advertising payments to Cannons Inc., 350 Main Street, W. Yarmouth, Massachusetts, a retail household appliance dealer. For a period ending in 1975, Commonwealth Electric Company had a cooperative

050



Gregory A. Roscoe

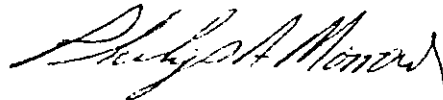
-2-

May 15, 1986

advertising program whereby we paid for a portion of appliance dealers advertising costs where such advertising concentrated on electrical appliances. Copies of these documents can be made available.

If you should have any questions, please contact me.

Very truly yours,



Philip A. Morrow, Manager
Environmental Management

PAM/pj

Enclosures

cc: E. Michael Thomas, Esquire
EPA Office of the Regional Counsel

Gregg J. Wilson, Esquire
Department of the Attorney General
Massachusetts

George Dana Bisbee, Esquire
Environmental Protection Bureau
New Hampshire

049

INFORMATION REQUEST
CANNONS ENGINEERING CORPORATION ET AL

- I. Commonwealth Electric Company
fka/New Bedford Gas and Edison Light Company
- II. N/A
- III. Philip A. Morrow
Manager, Environmental Management
Commonwealth Electric Company
2421 Cranberry Highway
Wareham, MA 02571
- IV. David A. Best A
Lynwood R. Comstock A
Albert B. DeMatos A
Robert A. Doyle A
John R. Farnham A
Dana P. Howland A
Vito R. Morra A
Thomas E. White A
George D. Williams A
David M. DeCosta B
Frank F. Knippenberg B
Raymond St. Don D
Theodore Fryzel C
Francesca C. McInerney E
Esther A. Reppucci E
Frederick G. Davis F

A. 2421 Cranberry Highway
Wareham, MA 02571

B. 484 Willow Street
Yarmouth, MA 02673

C. 273 Summer Street
Plymouth, MA 02360

D. 180 MacArthur Drive
New Bedford, MA 02740

E. 675 Massachusetts Avenue
P. O. Box 190
Cambridge, MA 02139

F. P. O. Box 636
Sanbornville, NH 03872

All present or former employees of the Company (or affiliated Company)

V. The enclosed documents making up the files of the Company, including purchase orders, invoices, checks, etc.

VI. A. 1. August 26, 1974

2. January 22, 1980

3. September 17, 1981

B. 1. Cannons Engineering Corporation

2. Cannons Engineering Corporation

3. Cannons Industrial Services

C. 1. Unknown (but 10,000 gal. tank capacity)

2. Unknown (but 10,000 gal. tank capacity)

3. 3,300 gal. of oil/water (not disposed by Cannons Engineering Corp.--transferred to Jet Line)

D. 1. Good #2 fuel oil and cleanings from fuel oil tank; #2 fuel oil was used for building heating. No additives.

2. Good #2 fuel oil and cleanings from fuel oil tank prior to sand blast and relining. #2 fuel oil was used for building heating. No additives.

3. Cleanup of transformer oil spill caused by storm damage. Transformer oil used as coolant and insulator.

E. 1. See attached typical analysis

2. See attached typical analysis

3. See attached typical analysis

F. 1. \$495 by check to "Cannons Inc."

2. \$1,800 by check to Cannons Engineering Corporation

3. \$3,106.35 by check to Cannons Industrial Services, Inc.

G. See attached purchase orders, invoices, checks, worksheets, and miscellaneous documents enclosed.

H. 1. W. Pollack

2. L. R. Comstock, V. R. Morra, R. G. Leblanc, R. F. MacDonald, R. A. Doyle, F. G. Davis

3. F. F. Knippenberg, R. D. Wright, W. H. Gill, and
P. A. Morrow

All present or former employees of Commonwealth Electric
excepting W. Pollack, deceased employee of affiliated
Company.

I. 1. Unknown

2. Cannons Engineering Corporation quotation from
enclosed proposal dated January 19, 1980, "If
there is a sufficient amount of good oil in the
tank, there would be no charge for disposal.
This would be determined by our chemist at the
Bridgewater plant after the oil had been heated
in a holding tank."
3. Transport by Cannons Industrial Services Inc.
to Commonwealth Electric facility, Willow Street,
Yarmouth, for disposal arrangements by respondent.

J. 1. Unknown

2. Unknown
3. Disposal by Jet Line Services, 441R Canton Street,
Stoughton, MA

K. 1. Unknown

2. Unknown
3. See VI. I. 3.

L. (1, 2, 3) Review of Company practices, records, and
procedures

3. Jet Line Services Manifest #3800-1

VII. A. Of transactions known; transaction number one (8/26/74)
is outside of time periods of concern for Plymouth site,
Londonderry site, and Nashua site; transaction number two
(01/22/80) is outside of period of concern for Londonderry
site and Nashua site; and transaction number three (9/17/81)
was not disposed by Cannons Engineering.

B. If applicable, see VI. C. 1., 2.

C. If applicable, see VI. D. 1., 2.

D. If applicable, Cannons Engineering Corporation

E. If applicable, Commonwealth Electric Company

F. None

- G. 1. If applicable; Cannons Engineering Corporation invoice for pumping and cleaning did not show disposal charges, if in fact there were any.
2. If applicable, Cannons Engineering Corporation invoice for cleaning, sandblasting, and coating did not include any charges for disposal. See VI. I. 2.
3. Not applicable

H. None

I. Unknown

J. See VI. I. 3.

K. Records of the Company (see VI. G.) and interviews with persons named herein.

COMMONWEALTH OF MASSACHUSETTS

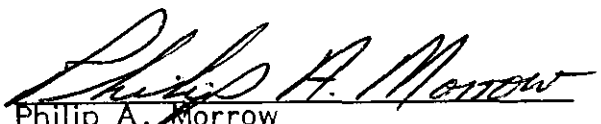
Middlesex, ss.

May 14, 1986

I, Philip A. Morrow, Manager of Environmental Management, Commonwealth Electric Company, do hereby state that a diligent record search and interviewing process has been made with respect to the business affairs of Commonwealth Electric Company which in any way may relate to chemical use and/or waste disposal practices of Commonwealth Electric Company between 1974 and the present. Any and all information responsive to EPA's Information Request is being forwarded to EPA and all such information resulting from such search and interviews is complete and accurate.

COMMONWEALTH ELECTRIC COMPANY

By:



Philip A. Morrow
Manager of Environmental Management

Sworn to me this 14th day of May, 1986.



Richard J. Morrison
Notary Public

My commission expires: 10/9/92

044

9/26/74



PURCHASE ORDER
ACCOUNTING DEPT. FILE AND VOUCHER NO.

SEP 20 1974

SHIP TO

New Bedford Gas and Electric Light Co.
Cape & Vineyard Division
Hyannis, Mass. 02601

ORDER NO.

U.C.H.R.D.

Cannons Engineering Corp.
350 Main Street
West Yarmouth, Mass. 01980

INVOICE
IN DUPLICATE

NEW BEDFORD GAS AND ELECTRIC LIGHT CO.
P. O. BOX 198, CANNON, MASSACHUSETTS 01901

FUNCTION		ACCOUNT OR BUDGET SYL.
U. S. N.	U. S. N.	

QUANTITY

MATERIALS

This purchase order is to cover the cost of
pumping and cleaning the 20,000 gallon
fuel oil storage tank at the Marine Fleet
Service Center.

Tank to be inspected by a company authorized
upon completion of work.

Priced per your quotation of \$12,775

TERMS:

The types and limits of your insurance,
certificates of which are to file with our
Insurance Department, are satisfactory and
shall remain in force for the duration of the
contract.

Net 30 Days

A.S.A. Details

APPROVED BY J.B.

DATE 9-20-74
ORDER BY

APPROVED BY

DATE 9-26-74

043

WPI



PURCHASE ORDER
RECEIVED SEP 23 1974

SHIP TO SEP 23 1974

ORDER NO.

New Bedford Gas and Electric Light, Heat & Power
Cape & Vineyard Division
Hyannis, Mass. 02601

Carmora Engineering Corp.
350 Main Street
West Yarmouth, Mass. 01973

INVOICE
IN DUPLICATE

NEW BEDFORD GAS AND ELECTRIC LIGHT, HEAT & POWER
P. O. BOX 100, COMMERCE, NEW BEDFORD, MASS.

FUNCTION	ACCOUNT
1830	

QUANTITY	MATERIAL

This purchase order is to cover the cost of
pumping and cleaning the 20,000 gallon
fuel oil storage tank at the Miller Street
Service Center.

Tank to be inspected by a company approved
upon completion of work.

APPROVED BY
DATE 9/23/74

I HAVE RECEIVED THE ABOVE MATERIALS AND SERVICES AS ORDERED
RECEIVED FROM Carmora Engineering Corp.

AT Hyannis

CHANGED BY
BY
DATE

DATE	BY	REASON	APPROVED

CANNONS ENGINEERING CORP.

PETROLEUM AND INDUSTRIAL TANK CLEANING
 POLLUTION AND OIL SPILL CONTROL SERVICE
 WET AND DRY VACUUM SERVICE AND WATER BLASTING

New Bedford Gas & Edison Light Co.
 P.O. Box 190
 Cambridge, Ma. 02139

SEP 23 1974

90857

90857

U.S. MAIL

DATE 9-19-74	P.O. NUMBER #40342	TERMS 11-10 N30	QUANTITY 1
DESCRIPTION Pump and clean 10,000 Gallon Tank		UNIT PRICE 2750.00	
TOTAL 2750.00		TOTAL 2750.00	

54

10-50

4/1

9035

9-111-9994

40342

51 500.00

100



Discussion

FUNCTION/ACCOUNT CODE

[illegible]

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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NEW BEDFORD GAS AND EDISON LIGHT COMPANY
130 AUSTIN STREET, CAMBRIDGE, MASSACHUSETTS 02142

VENDOR'S INVOICES				OUR NUMBERS		INVOICE AMOUNT		DISCOUNT		BALANCE	
NUMBER	MO	DAY	YR	VENDOR NUMBER	ORDER NUMBER						
4494	09	19	74	30925	040342	500 00		5 00		495 00	
						500 00		5 00		495 00	

NEW BEDFORD GAS AND EDISON LIGHT COMPANY
NEW ENGLAND GAS AND ELECTRIC SYSTEM

Cambridge, Massachusetts

THE FIRST NATIONAL BANK OF BOSTON
GENERAL BANK

THE NEW BEDFORD COMPANY

CHECK NO.
10657

NOT VALID BEFORE
SEPTEMBER 29, 1974

SEPTEMBER 25, 1974

CANNONS INC
350 MAIN ST
N YARMOUTH MASS 02073

TRIPPLICATE NOT VALID



PURCHASE ORDER
ACCOUNTING DEPT. FILE AND VO. COPY

ORDER NO. 48718

DATE 1/22/80

SHIP
VIA

SHOW OUR PURCHASE ORDER
NUMBER ON INVOICES, ALL
PACKAGES AND SHIPPING
PAPERS.

PREPAY ALL CHARGES ON
GOODS PURCHASED F.O.B.
DESTINATION.

PLEASE ACKNOWLEDGE THIS
ORDER AND GIVE US YOUR
PROMISE OF DELIVERY.

DELIVERY
REQUIRED

SHIP TO

New Bedford Gas and Edison Light Company
Plymouth Division-273 Summer Street
Plymouth, Ma. 02360

Cannons Engineering Corp.
P.O. Box 708
First Street
Bridgewater, Ma. 02324

INVOICE
IN DUPLICATE

NEW BEDFORD GAS & EDISON LIGHT CO.
P.O. BOX 190, CAMBRIDGE, MASSACHUSETTS 02139

AREA	FUNCTION		ACCOUNT OR STOCK SYM	QUANTITY	MATERIAL	PRICE
	W.O.	T A B				
20	3001				<p>Clean, sandblast and apply two (2) coats of epoxy to 10,000 gal. underground fuel oil tank at 273 Summer St., Plymouth, Mass. Sludge disposal at 0.25 per gal., unless sufficient good oil is removed to enable sludge to be burned with the good oil.</p> <p>Furnish five (5) year guarantee on tank workmanship. Work should be started immediately. Price.....</p> <p><u>INSURANCE</u> The types and limits of your insurance, certificates of which are on file with our Insurance Department, are satisfactory and shall remain in force for the duration of the contract.</p> <p>All in accordance with your proposal to New England Gas and Electric System dated Jan. 14, 1980.</p>	\$1,800.00 Lot Net

RAM

G. Comstock/V.M.

ORIGINATED BY

CHECKED BY G.G. LeBlanc

APPROVED BY DATE 1/22/80

TERMS

Net 30 Days

F.O.B. Delivered

BY *[Signature]*
FOR THE COMPANY



PURCHASE ORDER
STORES DEPARTMENT

MARK 3 5 1980
ORDER NO. 48718

SHIP TO

New Bedford Gas and Edison Light Company
Plymouth Division-273 Summer Street
Plymouth, Ma. 02360

DATE 1/22/80

SHIP
VIA

SHOW OUR PURCHASE ORDER
NUMBER ON INVOICES, ALL
PACKAGES AND SHIPPING
PAPERS.

PREPAY ALL CHARGES ON
GOODS PURCHASED F.O.B.
DESTINATION.

PLEASE ACKNOWLEDGE THIS
ORDER AND GIVE US YOUR
PROMISE OF DELIVERY.

DELIVERY
REQUIRED

Cannon Engineering Corp.
P.O. Box 708
First Street
Bridgewater, Ma. 02324

INVOICE
IN DUPLICATE

NEW BEDFORD GAS & EDISON LIGHT CO.
P.O. BOX 190, CAMBRIDGE, MASSACHUSETTS 02139

AREA	FUNCTION		ACCOUNT OR STOCK SYM	QUANTITY	MATERIAL	PRICE
	W.O.	T A B				
20	3001				<p>Clean, sandblast and apply two (2) coats of epoxy to 10,000 gal. underground fuel oil tank at 273 Summer St., Plymouth, Mass. Sludge disposal at 0.25 per gal., unless sufficient good oil is removed to enable sludge to be burned with the good oil.</p> <p>Furnish five (5) year guarantee on tank workmanship. Work should be started immediately. Price.....</p> <p><u>INSURANCE</u> The types and limits of your insurance, certificates of which are on file with our Insurance Department, are satisfactory and shall remain in force for the duration of the contract.</p> <p>All in accordance with your proposal to New England Gas and Electric System dated Jan. 14, 1980.</p>	\$1,800.00 Lot Net

T. Comstock/V.M.
ORIGINATED BY

TERMS **Net 30 Days**

F.O.B. **Delivered**

AREA NO.

CHECKED BY **P.G. LeBlanc**

APPROVED BY

DATE **1/22/80**

I HAVE RECEIVED THE ABOVE MATERIALS AND FIND THEM AS STATED

RECEIVED FROM

RECEIVED BY

AT

DATE
CARRIER
TRANS.

CHARGES

COL

PPD

FRT
EXP

WHEN PARTIAL SHIPMENT IS RE-
CEIVED REPORT ON FORM NO. SD-36
INCOMPLETE SHIPMENT RECEIPT

PLYMOUTH

: 10,000 Gallon Underground Tank
Plymouth Service Center
Summer Street

: November 21, 1979

: V. Morra - Wareham - Linemen Bldg.

Since the Plymouth Service Center on Summer Street has converted from oil to gas heating, the 10,000 gallon UG tank is no longer required to store heating fuel.

It is proposed to use this tank for the purpose of accumulating junk transformer oil from all districts.

In order to check the suitability of the tank for this proposed purpose, please take the necessary steps to pump out any remaining heating fuel, pressure test for leaks, and if necessary, make piping changes.

Since junk transformer oil is rapidly accumulating at the districts, this work should be completed as soon as possible.

Please notify me when done.

A.B. DeMatos
Plymouth
Staff Assistant

cc: H.D. Cash
R.G. Velte
T.E. White
S. Wood, Jr.

636

INTER-OFFICE CORRESPONDENCE

MF28H*

BUILDINGS, GROUNDS AND SECURITY

(Office)

Subject 10,000 Gallon Underground Tank
Plymouth Service Center
Summer Street

Date December 6, 1979

To J. Powers

Attention of

Since the Plymouth Service Center on Summer Street has converted from oil to gas heating, the 10,000 gallon UG tank is no longer required to store heating fuel.

It is proposed to use this tank for the purpose of accumulating junk transformer oil from all districts.

Fred
→ In order to check the suitability of the tank for this purpose, please take the necessary steps to pressure test the tank for leaks; also check the thickness and if necessary, make piping changes. We will also have to make arrangements to pump out the remaining heating fuel.

I also feel that we should check to see if our present permit would cover this type of storage. *No other permits required per P.A. Morra.*

I have been informed that junk transformer oil is rapidly accumulating in all districts, and this work should be completed as soon as possible.

I remain available to assist in any way I can.

Please keep me posted.

V. R. Morra
V. R. Morra

VRM/fk

cc: Messrs. A. S. Griffiths
R. G. Velte
H. D. Cash
T. E. White
A. B. DeMatos

RECEIVED
DEC 17 1979
C.E. DEPT.

635

Fred,

12/17/79

Would you please get something
started on this as soon as you can.
Need to know 1.) what exists?

2.) How old?

3.) Thickness? (Consultant, Specialist,
sonar)

4.) Piping arrangement

ETC.

Thanks,
Fm

634

12/21/79

CANNON'S ENGINEERING CORP.

BRIDGEWATER, MASS 697-3344

MR. PAUL BIEBEE

TANK COULD BE CLEANED - (SAND BLASTED
IN A PATTERN & ULTRA SONICALLY
TESTED FOR WEAK SPOTS. NO GUARANTEE

THAT SPOTS IN BETWEEN TESTED AREAS
WOULD NOT BE WEAK! COST \$1000.00

IN ADDITION 2 COATS OF EPOXY
COULD BE APPLIED TO TESTED TANK
INTERIOR. TANK WOULD BE GUARANTEED
5 YEARS - FOR \$2000.00 ADDITIONAL

OR —

OMIT ULTRA SONIC TESTING - INSTEAD
CLEAN ONLY AND 2 COATS OF EPOXY -
AGAIN 5 YR GUARANTEE
033 PRICE \$23-2400.00

NEW TANK INSTALLED AND OLD TANK

REMOVED - BETWEEN \$4-5000.00

TANK ONLY \$3285.00

\$ 1000⁰⁰—

\$ 23-2400⁰⁰—

Guarantee 5 yrs

PAUL

Epox 2000⁰⁰—

BISBEE

032

PLYMOUTH

: 10,000 Gallon Underground Tank
Summer Street Service Center
Plymouth, Massachusetts

: December 27, 1979

: Mr. V.R. Morra

This is in answer to your letter dated December 6, 1979 to the attention of J.M. Powers.

In an attempt to satisfy the items requested by you, I will answer each item as it was listed in your letter.

Suitability: The tank, in general, should be quite suitable for the intended use. It's present location is less than desirable since the access to the tank is directly exposed to Summer Street and to the main entrance of the Service Center. Also some considerable expense is involved if other items are to be satisfied.

Pressure Test: A pressure test can be accomplished for approximately \$600.00. This is an accurate way to test the integrity of the tank. However, this type of test indicates the condition of the tank only on the day it is tested. The tank could fail the same test the next week.

Thickness: The only reliable way to test the thickness while the tank is in the ground is by ultra-sonic sound waves being passed through the tank walls. This test would require that the tank be emptied, steam cleaned and sand blasted at the areas to be tested. This would indicate an average thickness for the portions tested. The portions not tested would remain an unknown quantity. This test with supporting activity would cost approximately \$2000.00

Permits: This item was discussed with our Environmental Engineer, P.A. Morrow. Phil feels very strongly that any existing permits would cover the intended use. The intent of use will not change significantly. The concentration of P.C.B.s would not be high enough to require special permits.

During our investigations to provide you this information, a Mr. Bisbee of Cannon Engineering Corporation in Bridgewater, Massachusetts said that his firm would guarantee the integrity of the tank for five (5) years if we would allow him to apply two coats of epoxy to all of the interior surfaces. This coating would cost \$2000.00 if done in conjunction with the tank cleaning and sound testing:

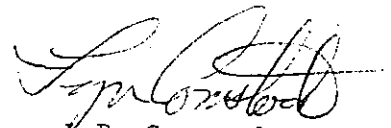
From all this, I see two realistic approaches to using the tank to accumulate transformer oil:

031

- 1.) Empty, clean and test the tank with ultra-sonic sound waves. If the test is satisfactory, use it with no further work.
Estimated Total Cost = \$3500.00
- 2.) Same as number 1 only go further and have the tank coated with two coats of epoxy.
Estimated Total Cost = \$5500.00

A new tank begins to look attractive as we approach \$6000.00. However, a new tank would definitely require additional permits. The problems that go with new permits are very undesirable and should discourage further pursuit of a new tank installation in this case.

If you would like us to proceed with the described work please advise as to the amount to be spent and to what it should be charged.

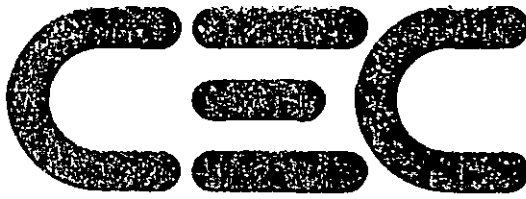

L.R. Comstock

LRC/cpm

cc: H.D. Cash
J.M. Powers
T.E. White

O.K. for \$ 5500.00
per V. R. Morra on 1/7/80
Charge to:
Area 20 F-3001

030



Cannons Engineering Corporation

January 14, 1980

New England Gas and Electric System
273 Summer St.
Plymouth, Mass. 02360

Dear Mr. Davis:

We propose to clean, sandblast and apply two coats of Epoxy to a 10M gallon underground # 5 oil tank.

Disposal of sludge from the tank would be at 25¢ per gallon and a Certificate of Disposal would be sent to you. Disposal would be in accordance with all State and Federal regulations.

If there is a sufficient amount of good oil in the tank, there would be no charge for disposal. This would be determined by our chemist at the Bridgewater plant after the oil had been heated in a holding tank.

The amount for the above work would be \$1800.00 and a five year guarantee on the workmanship on the tank would be given to you.

If there are any questions please call me and thank you for giving us the opportunity to quote this for you.

Sincerely,

Paul F. Bisbee
Paul F. Bisbee
Supervisor

029

PFB:jd

P. Lipman

REQUISITION FOR MATERIALS AND SUPPLIES

PLEASE SHIP TO NEW BEDFORD GAS & EDISON LT. CO.
273 SUMMER ST., PLYMOUTH, MA. 02360
SUPPLIER CANNON S ENGINEERING CORP.
P.O. BOX 708
FIRST ST., BRIDGEWATER, MA. 02324
BILL TO NEW BEDFORD GAS & EDISON LT. CO.

DATE 1/17/80
REQN. NO. _____
PURCHASE ORDER NO. 48718
DEL. REQ. _____
SHIP VIA _____

ON HAND	AREA	FUNCTION V.O.	TAB	ACCOUNT NO. STORES SYMBOL	QUANTITY	MATERIAL	PRICE
	20	3001				CLEAN, SANDBLAST AND APPLY TWO (2) COATS OF EPOXY TO 10,000 GAL. UNDERGROUND FUEL OIL TANK AT 273 SUMMER ST., PLYMOUTH, MASS. SLUDGE DISPOSAL AT 0.25 PER GAL., UNLESS SUFFICIENT GOOD OIL IS REMOVED TO ENABLE SLUDGE TO BE BURNED WITH THE GOOD OIL. FURNISH FIVE (5) YEAR GUARANTEE ON TANK WORKMANSHIP. WORK SHOULD BE STARTED IMMEDIATELY. PRICE	028 \$1800.00 LOT NET
						INSURANCE CERTIFICATES TO BE FILED WITH THE COMPANY PRIOR TO THE START OF WORK. ALL IN ACCORDANCE WITH YOUR PROPOSAL TO NEW ENGLAND GAS & ELECTRIC SYSTEM DATED JAN. 14, 1980.	
						TERMS <u>NET 30</u> <u>DELIVERED</u>	

TO
R.G. VELTE
FOR
APPROVAL

Mail Copy to V. Morris

RAD

DA

INVOICE

No. IM5-2272

CANNONS ENGINEERING CORP.

350 MAIN STREET
WEST YARMOUTH, MASS. 02673New Bedford Gas & Edison Light Co.
P.O. Box 190
Cambridge, Ma. 02139

INVOICE DATE	2/25/80
OUR ORDER NO.	
YOUR ORDER NO.....	#48718.....
TERMS	Net 10 days

31203

JOB LOCATION

QUANTITY	DESCRIPTION	PRICE	AMOUNT
027	Clean, sandblast and apply two coats of epoxy to 10,000 gal. underground fuel oil tank at 273 Summer Street, Plymouth, Mass. as per P.O. #48718 20-3001 ARM	\$1,800.00	

Finance Charge 1½% per month or an annual percentage rate of 18% — on balances past due 30 days and over.

Check Detail

FUNCTION/ACCOUNT DETAIL

TOTAL		
	1800	521

CANNONS ENGINEERING CORP
 350 MAIN ST
 W YARMOUTH MA 02672

NEW BEDFORD GAS AND EDISEN, LIGHT CO

DUPLICATE
 20088

031203

03/22/80

*****1,800.00

1980

VENDORS INVOICE NUMBER	DATE	OUR NUMBERS VENDOR ORDER NUMBER NUMBER
2272	022080	030529 042712

INVOICE AMOUNT	DISCOUNT AMOUNT	NET AMOUNT
1,800.00	.00	1,800.00
1,800.00 *	.00 *	1,800.00

025

COM Electric

Purchase Order
Number 43275
43375

Date 9/17/81

Show our purchase order
number on invoices, all
packages and shipping
papers.

Ship to:

Commonwealth Electric Company
Cape District
Hyannis, Mass. 02601

Control Number 0115

Purchased From:

Cannons Industrial Services
350 Main St.
West Yarmouth, Mass. 02673

ACCOUNTING DEPT.

1

A r e a	Function		Account or Stock Symbol	Invoice in Duplicate		Material	Price
	Work Order	T a b		Quantity			
39	1305			Complete - 9-22		Clean up oil spill at Gateway Marina Rest, Neptune Lane, West Yarmouth. Deliver all Spill debris and liquid to C&V Dist. Service Center on Willow St. for disposal by C&V. CONFIRMATION- Work completed as of Sept. 4, 1981. All above is in accordance with your Invoice #1030 dated 9/8/81	\$3106.35 lot net
This should be charged to JA. G8800				024			
RAD							

Terms Net 10 Days F.O.B. Jobsite
SUBJECT TO THE CONDITIONS ON THE BACK OF THIS FORM

By F. Knippenberg
Originated

By [Signature]
Approved

By [Signature]
For the Company

COM Electric

Purchase Order
Number **43275**

Date **9/17/81**

Show our purchase order
number on invoices, all
packages and shipping
papers.

Ship to:

Commonwealth Electric Company
Cape District
Hyannis, Mass. 02601

Control
Number **0115**

Cannons Industrial Services
350 Main St.
West Yarmouth, Mass. 02673

Purchased From:

RECEIVING REPORT

2

A r e a	Function		Account or Stock Symbol	Invoice in Duplicate		Commonwealth Electric Company 2421 Cranberry Highway, Wareham, Massachusetts 02571	
	Work Order	T a b		Quantity	Material	Price	
39	1305		PA 9/24 Inv #1030	Complete - 9.22	Clean up oil spill at Gateway Marina Rest, Neptune Lane, West Yarmouth. Deliver all Spill debris and liquid to C&V Dist. Service Center on Willow St. for disposal by C&V. CONFIRMATION- Work completed as of Sept. 4, 1981. All above is in accordance with your Invoice #1030 dated 9/22/81	151.00	
This should be charged to JA. 68800				623			
RAD							

Terms Net 10 Days

F.O.B. Jobsite

SUBJECT TO THE CONDITIONS ON THE BACK OF THIS FORM

Subject to the conditions on the back of this form.

I have received the above materials and find them as stated

Received

From

Received

By

Carrier

By

For the Company

Date

9/22/81

Recorded Month of

By

By F. Knipperberg
Originated

By [Signature]
Approved

CANNONS INDUSTRIAL SERVICES

350 MAIN STREET
WEST YARMOUTH, MASSACHUSETTS 02673
(Division Cannons Inc.)
617-775-2800

Commwealth Electric Co.
Willow Street
West Yarmouth, Ma. 02673

Attention: Mr. Frank Knippenberg

ACCT. PAYABLE

SEP 20 1981

INVOICE

No. 1030

43275

INVOICE DATE	Sep. 8. 1981
YOUR ORDER NO.	
YOUR ORDER NO.	
TERMS	Net 10 days
F.O.B.	

91025

JOB LOCATION

Gateway Marina Restaurant, Neptune Lane, West Yarmouth, Ma.

QUANTITY	DESCRIPTION	PRICE	AMOUNT
	Cleanup of spill as per attached copies of work orders E 39-1305 = \$3,106.35 RECEIVED SEP 21 1981 Ans'd..... 022	\$3,106.35	

Finance Charge 1½% per month or an annual percentage rate of 18% — on balances past due 30 days and over.

~~SECRET~~

Vendor #	Invoice Date	Invoice #	Day	Co. No.	Yr.	34	
908257	9-8-81	1030	23 24	11	1	81025	
Purchase Order #	Invoice Due Date (Julian Format)	Check Routing Code	Gross Amount	Discount	Net Amount		
43275	81272	52 54	3106 35		3106 35		

DISTRIBUTION

7	1
---	---

[illegible]

	AMOUNT	
72	3	106 35
TOTAL	3	106 35

Public Domain

146

INVOICE RECEIVED	FREIGHT	PREPARED	APPROVED
		<i>Sm</i>	<i>P. G. L.</i>

CANNONS INDUSTRIAL SERVICES
350 MAIN STREET
W. YARMOUTH MA 02673

COMMONWEALTH ELECTRIC COMPANY

DUE DATE
8/27/81

09/28/81

1981

*****3,106.35

VENDORS NUMBER	INVOICE DATE	OUR NUMBERS VENDOR ORDER NUMBER NUMBER	INVOICE AMOUNT	DISCOUNT AMOUNT	NET AMOUNT
1030	090681	906257 043275	3,106.35 3,106.35	.00 .00 *	3,106.35 3,106.35

020

3062-1-1
SN-7415175-5
" - 7415175-7
" - 7415175-6

Conf/Elec. T & D - 28

ELECTRIC OPERATIONS

REPORT NO. _____

SPILL REPORT

Field - Immediately notify supervisor or engineer on duty. Date 8/24/81 Time 8:23 PM

Equipment Involved 3-50KVA Transformer

Date of spill 8/24/81 Time 2023 Exact Yes Estimated _____

Date spill first observed 8/24/81 Time same By W. Lutz

Location Disruptive Service Yard - Pole 163/2 - Gateway Isl.

Type Fluid _____ Estimated volume of spill 40 gals.

Sample Taken for PCB analysis? No _____ Yes Yes

Did spill enter water No No _____ Yes _____

Spill contained: Date 8/24/81 Time 12 Midnight

Spill cleaned up: Date 8/25/81 Time 3 AM

Crew Leader F. Thomas Foreman F. Thomas

Description of spill, cause, containment, cleanup problems encountered, water conveyance if involved, comments and recommendations: During lightning storm - wind picked up a transformer and blew it into River & falls. Broken pole, dropping 33kV A. transformer as it fell. It was raining very hard. About 40 gal. of oil spilled in a very low puddle of water. We used Common Pumping Service to pump up water & used pad to prevent oil from entering River. Natural Resource Officer was on scene. They made suggestions which we followed. They also took Signature E. A. Lutz
there were samples from water puddle

Supervisor/Engineer on Duty

Receipt of spill notification: Date 8/24/81 Time 2023

Assessment Action/Personnel Notified - Date 8/24/81 Time approx 2200

Common Engineering - Yarmouth Fire Dept.
National Response Center

Signature _____

Agency Notification	Date	Time	Person	Title
Coast Guard	<u>8/24</u>	<u>2130</u>	<u>MR. OUELLETTE</u>	<u>ENSIGN</u>
E.P.A.	_____	_____	_____	_____
Mass. D.W.P.C.	_____	_____	_____	_____

Signature _____

Sample for PCB Analysis if applicable

Laboratory Fondler Research Date of Report 8/27/81

Address Assonet, Mass Report No. C98-0040

PCBs ppm C671-81 45, C672-81 45, C673-81 1

DEPARTMENT HEAD J. Vasson ENVIRONMENTAL ENGINEER OVER

SUPERINTENDENT OF ELECTRIC MAINTENANCE W. Lutz

MANAGER OF ELECTRIC MAINTENANCE _____

PA. Merrow

Conversations 8-25 Jim Channing 2
Frank Huppert 2
Arnold Douche
John Sackman 2
Phil Rippa - Diu WPC 2

8-26 Frank Huppert 2
Phil Rippa Diu WPC

8-27 Frank Huppert 2
Phil Rippa Diu WPC

9-1 Frank Huppert

9-3 Phil Rippa Diu WPC.

Cannon Engineering Trust (CET) brought to willow St AM
of 8-25

3300 gm of contents of CET transferred to fat line
Trust AM of 9-1

→ Cannon Engineering is no longer licensed - NOT to
be used in future.

Had no prior knowledge that State had
cancelled Cannon's licenses.

Phil Rippa informed me 8-25 of same
and indicated official knowledge to me of
same on 9-3.

As of 9-3 Phil Rippa satisfied & thanked us
for our cooperation.

Philip A. Merrow 9-3-81

018

CIV TAD # 28

8-25-81 Tuesday

AM call from Don Chasum
on spill

Phil Rypstra Pembroke 826-2424
New Boston 727-9675

Questions by Phil Rypstra ^{wanted}
He was notified by Yarmouth ^{Yarmouth/Providence} Sheriff's Office
^{that is the Haz Mat Code}

- 1) How much Mr. cleaned up - 3300 gm
- 2) Where is it now stored - Cannon Ridge
- 3) How stored - in what ^{R 28 W Yarmouth} tank truck
- 4) what will we do w/ it. ^{downs?}

Yarmouth Fire District Dept of Natural
Resource Center notified

Feeling to be done by Friday

617

C&V notified 823 PM on 8-24-81
continued @ midnight

cleaned up by 3 AM - pump truck
left speedi day m/f on word of Natural Resources
Officers - he will indicate when to clean up

No oil seachy sound.

3-50 KV transformers - pole down during
lightning storm

40 gallon spilled. 2 Twp / 4 some of third.

4 puddles 1 deep +/- Manhole covers opposite
side of road - plugged -

Twp landed in ft of water - 1 pud.

oil sheen on 2nd pud - prob due to road oil

none - no oil seached opposite side of
Rd.

Oil

8-25-81 ENCLOSED call from Ron Varnum.
~ 10 AM??

called Frank Knippmeyer
Samples to be taken from test
taken to Finley in tomorrow's delivery
results take tomorrow.
discussed more status of spill
canon.

called Phil Rippa AM -

answered his questions -
he informed me that canon is no
longer licensed.

Also advised B
for barrels (AK)
(John Sacramento)

would like vehicle moved to one site.
Willow St.,

Suggested Recycling Industries
get him Serevant

Peabody C. Industries.

Do not dispose of or transfer until
results are available.
if 750 problem
if 250 no problem with oil separation

Checked September

called Frank - Asked to have canon's tank
moved to Willow St. & spoke of
get him.

Frank called - 2pm
truck to be moved on site in 2 hr

called Phil Rippa - on moving & analysis
8-26 of test results

8-26-81 Wed. Samples delivered Auto Fueling

4:15 - call from Frank -

1st results 4:10

4:45 called Phil/Eppa - ok to refuel him

8-27-81 Thurs.

Frank called.

RTN from GCA 12-1 AM.

Called Frank - indicated ok to get fuel him
Frank to proceed.

from Frank - let him to admit analysis
is hard. Frank to be away 8-28,
i. then leave Monday or Tuesday

Call Phil/Eppa informed him

8-1 Called Frank.

let him to proceed in AM
question on EPA ID# on Manifest
left blank

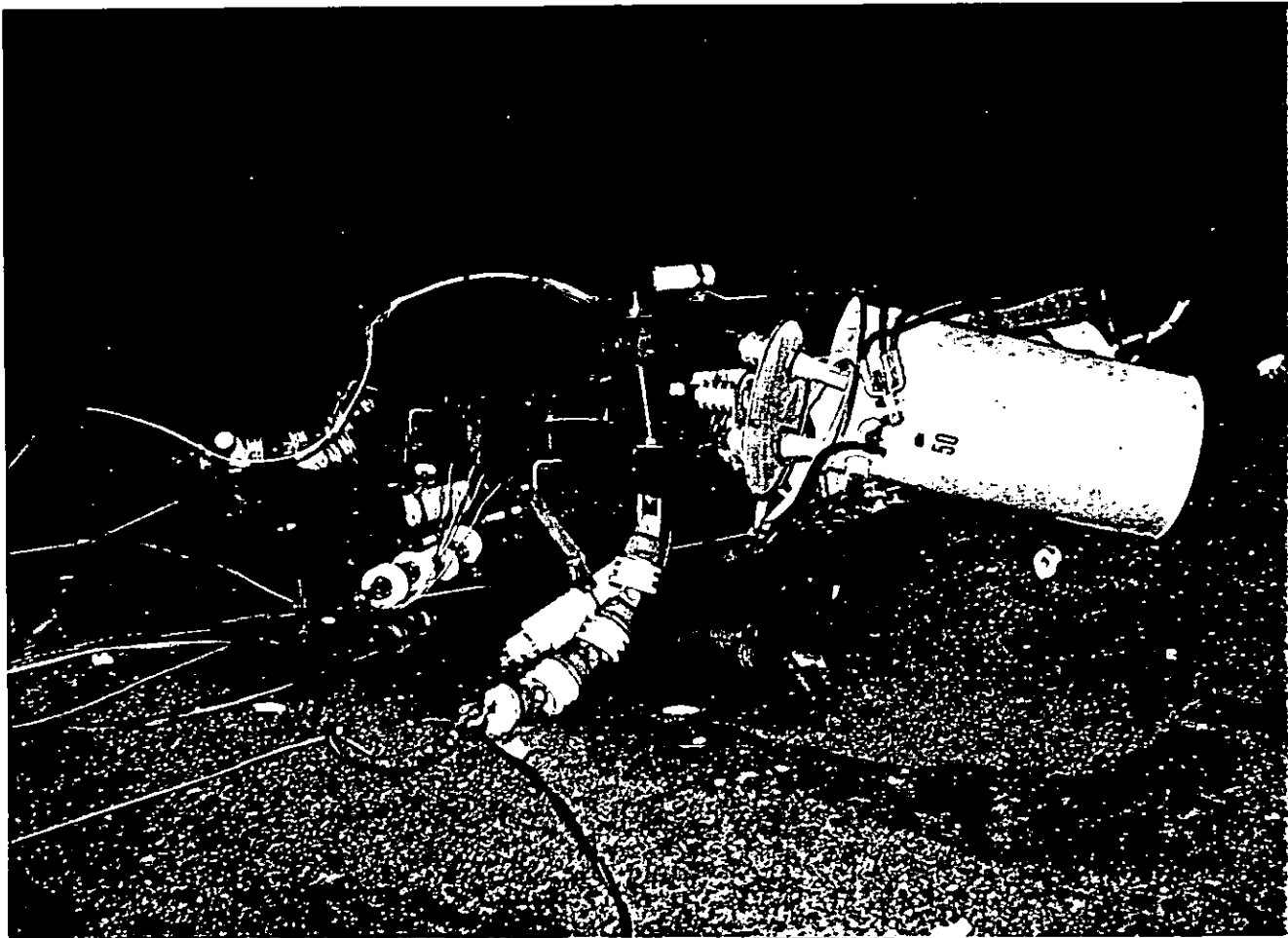
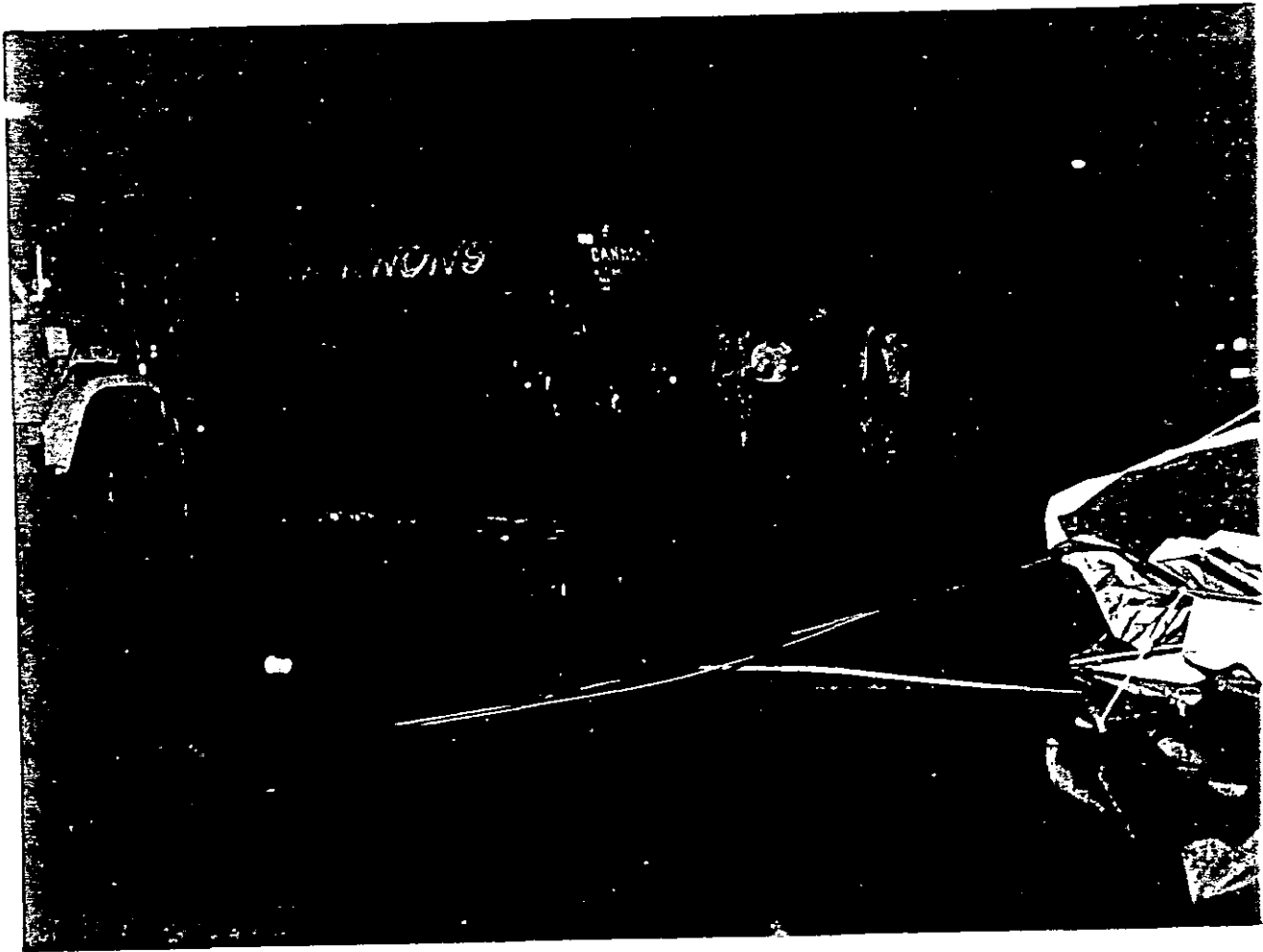
Cost $\frac{50}{\text{ke}}$ & $\frac{30}{\text{gal.}}$
2 shes

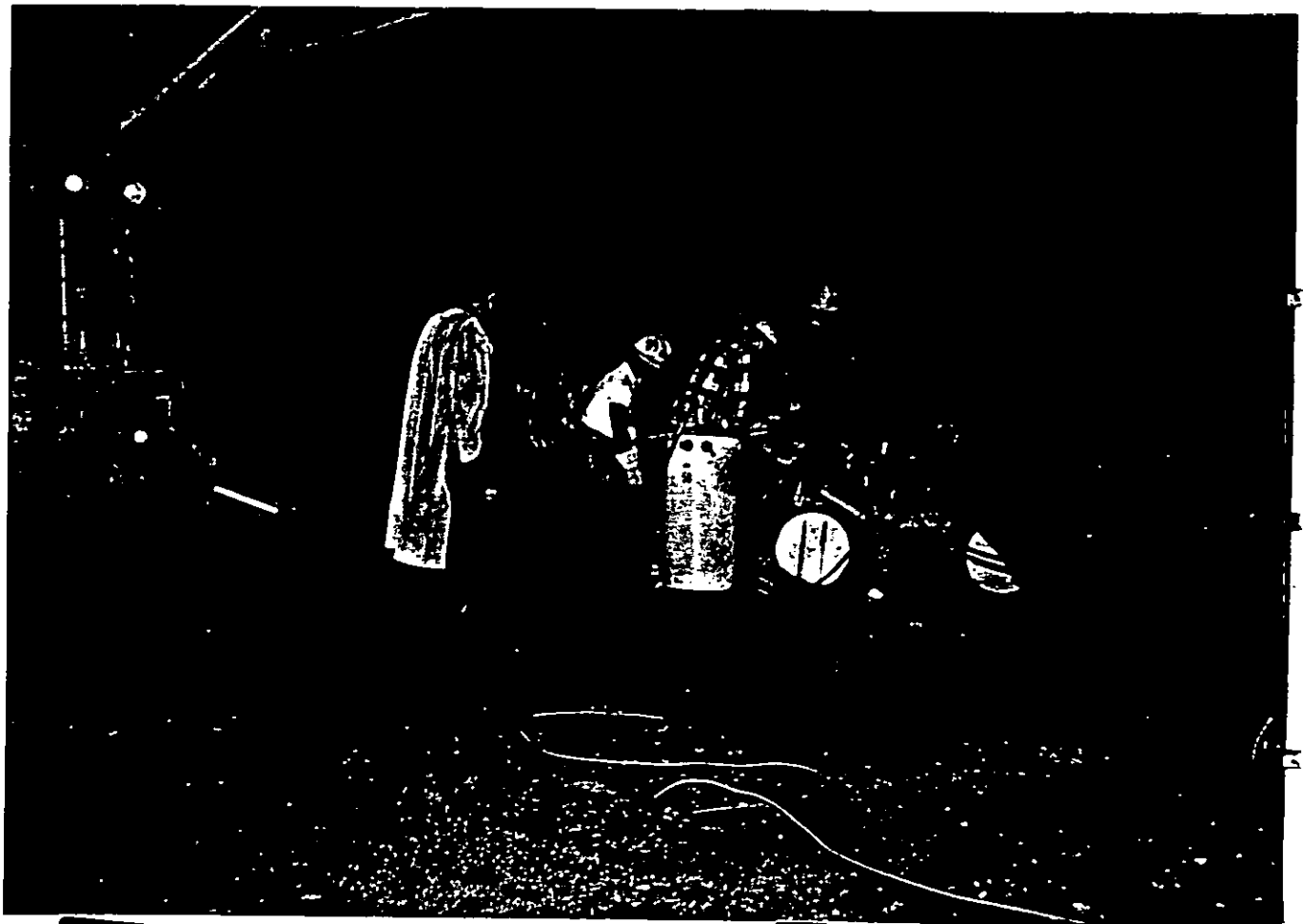
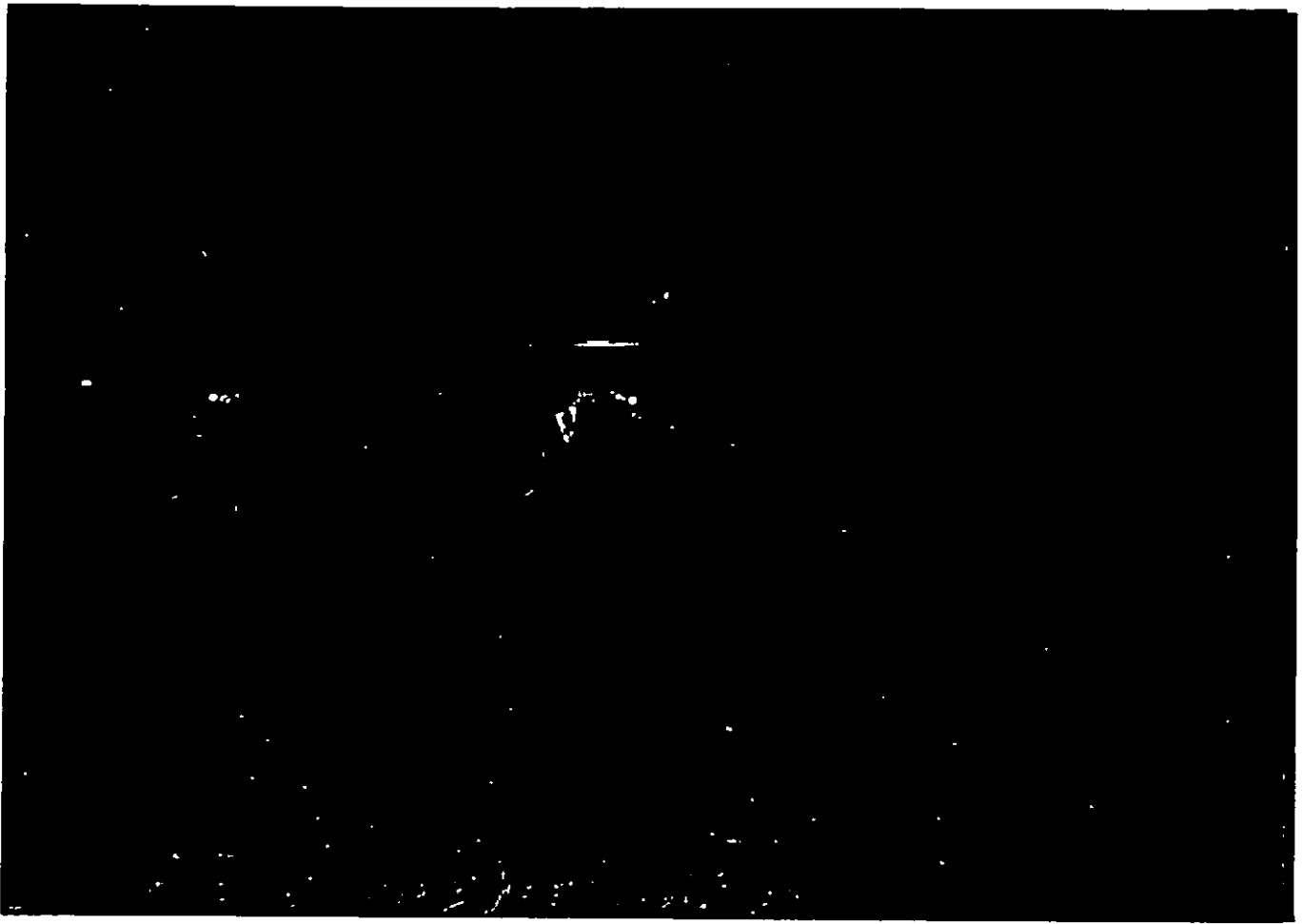
9-3 called Phil/Eppa - gave him

Analyses 75 45 & 1

he thanked me for cooperation

014





6871



PURCHASE ORDER 1

ACCOUNTING DEPT. FILE AND VO. COPY

SHIP TO

Commonwealth Electric Company
Cape District
Hyannis, Mass. 02563

Jet Line Service Inc.
441R Canton St.
Stoughton, Mass. 02072

ORDER NO. 43245

DATE 9/9/81

SHIP
VIA

SHOW OUR PURCHASE ORDER
NUMBER ON INVOICES, ALL
PACKAGES AND SHIPPING
PAPERS.

PREPAY ALL CHARGES ON
GOODS PURCHASED F.O.B.
DESTINATION.

PLEASE ACKNOWLEDGE THIS
ORDER AND GIVE US YOUR
PROMISE OF DELIVERY.

DELIVERY
REQUIRED

AREA	FUNCTION		ACCOUNT OR STOCK SYM	QUANTITY	MATERIAL	PRICE
	W.O.	T A B				
42	1204	10/19 10/21		Complete 9/11	<p>Supply necessary labor and equipment to pump out a tanker container ing approx. 3300 Gal. water and oil mixture.</p> <p>Properly dispose of this liquid.</p> <p>CONFIRMATION To Mr. Jerry Mayo-DONNOT DUPLICATE</p> <p><u>INSURANCE</u></p> <p>The types and limits of your insurance certificates of which are on file with our Insurance Department, are satisfactory and shall remain in force for the duration of the contract.</p>	<p>Labor \$58.25/Hr.</p> <p>Disposal \$ 0.20/Gallon</p>
Charge to J.A. 68800 to 13559						
RAD						

ORIGINATED BY

TERMS

Net 30 Days

F.O.B.

Jobsite

SUBJECT TO THE CONDITIONS ON THE BACK OF THIS FORM

CHECKED BY DATE

M. Costa 9/9/81

APPROVED BY

BY

FOR THE COMPANY

JET-LINE SERVICES, INC.

441 R CANTON STREET
P.O. BOX 180
STOUGHTON, MASS. 02072
(617) 843-2829

RECEIVED
SEP 14 1981

Ans'd.....

CUSTOMER NUMBER	1144235
INVOICE NUMBER	10811
INVOICE DATE	09 SEP 81

ACCT. PAYABLE
OCT 21 1981

COMMONWEALTH ELECTRIC CO
PO BOX 790
D
THYANNIS MA 02601

S
I
T
E

484 WILLOW STREET
YARTHMOU TH

100%

BRANCH	OUR JOB NO.	YOUR PURCHASE ORDER NO.	CAT.	TERMS	TRANSACTION	TYPE	PA
1	5814	43245	9	NET 15 DAYS	INVOICE	1 01499	1
QUANTITY	DESCRIPTION			UNIT PRICE	U/M	USAGE	AMOUNT
	PUMPING SERVICES						
	TUES SEPT 1 1981						
1	104	ST-EQUIPMENT OPERATOR/MECHANIC		16.25	HR	4.0	65.00
1	104X	OT EQUIPMENT OPERATOR/MECHANIC		24.37	HR	1.0	24.37
1	200	VACUUM TRACTOR TRAILER TRUCKS		42.00	HR	5.0	210.00
1	485	LIQUID DISPOSAL		0.20	GAL	3300.0	660.00
E 42-1204							
RECEIVED SEP 16 1981 Ans'd.....							
010							
SUB-TOTAL							959.37

PAST DUE INVOICES ARE SUBJECT TO SERVICE CHARGE OF 1% PER MONTH.

CUSTOMER ORIGINAL

TOTAL AMOUNT DUE \$ 959.37

HAZARDOUS WASTE MANIFEST AND SHIPPING PAPER

MA

3800-1

PURCHASE ORDER NUMBER

5814

MANIFEST NUMBER

WORK ORDER/CUSTOMER NUMBER

GENERATOR'S NAME Commonwealth Electric Co	GENERATOR'S MAILING ADDRESS 484 WILLOW ST YARMOUTH	GENERATOR'S PHONE NUMBER (617) 891 0950	STATE/E.P.A. I.D. NUMBER MA
PRIMARY TRANSPORTER'S NAME Jet Line Services	TRANSPORTER'S MAILING ADDRESS 441 R CANTON ST STOUGHTON	TRANSPORTER'S PHONE NUMBER (617) 344 2510	STATE/E.P.A. I.D. NUMBER MA
CONTINUING TRANSPORTER'S NAME	CONTINUING TRANSPORTER'S MAILING ADDRESS	CONTINUING TRANSPORTER'S PHONE NUMBER	STATE/E.P.A. I.D. NUMBER
H.W.F. NAME Jet Line Services	H.W.F. MAILING ADDRESS 441 R CANTON ST STOUGHTON	H.W.F. PHONE NUMBER (617) 344 2510	STATE/E.P.A. I.D. NUMBER MA
DATE SHIPPED	EXPECTED ARRIVAL DATE	IF MORE THAN ONE MANIFEST PER SHIPMENT COMPLETE	TOTAL NO. OF FORMS
		MANIFEST NO. OF LAST FORM	

#	HM	U.S. D.O.T. SHIPPING NAME	D.O.T. HAZARD CLASS	UN./N.A. NUMBER	WT./VOL.	UNITS	CONTAINER NO.	TYPE	S.G.	E.P.A. WASTE NUMBER	DESCRIPTION OR WASTE ANALYSIS IF N.O.S.
1		WASTE PETROLEUM OIL N.O.S.	COMBUSTIBLE LIQUID	1270	3300	GAL	1	TAL		DO01	TRANSFORMER OIL & WATER
2											
3											
4											
5											
6											

SPECIAL HANDLING INSTRUCTIONS AND EMERGENCY RESPONSE INFORMATION

THIS MEMORANDUM is an acknowledgment that a Bill of Lading has been issued and is not the Original Bill of Lading, nor a duplicate, covering the property named herein, and is intended solely for filing or record. RECEIVED, subject to the classification and tariffs in effect on the date of receipt by the carrier of the property described in the Original Bill of Lading.

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown) marked, packaged, and delivered as shown below, which said company (the word "company" being understood throughout this contract as meaning any person or corporation in possession of the property under this contract) agrees to carry to its usual place of delivery at said destination if on its own railroad, water line, highway route or routes, or within the territory of its highway operations, otherwise deliver to another carrier on the route to said destination. It is mutually agreed, as to each carload of all or any of said property over all or any portion of said route to destination, and as to each party of any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained, including the conditions on back hereof, which are hereby agreed to by the shipper and accepted for himself and his assigns.

IN THE EVENT OF A SPILL, CONTACT THE NATIONAL RESPONSE CENTER, U.S. COAST GUARD 1-800-424-6802

REQUIRED LABELS <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	THIS IS TO CERTIFY THAT I AM THE PRIMARY TRANSPORTER AND HAVE ACCEPTED THE DESCRIBED SHIPMENT IN PROPER CONDITION FOR TRANSPORT TO THE IDENTIFIED H.W.F.	SIGNATURE OF TRANSPORTER <i>Ray Bunker</i>	VEHICLE I.D. STATE MA COMPANY NO. FOR TRAILER, MARINE OR RAIL 735-315	DATE OF DELIVERY TO H.W.F. 9/1/81	DATE OF ACCEPTANCE OF DELIVERY 9/1/81	IF CHARGES ARE TO BE PREPAID WRITE OR STAMP HERE "TO BE PREPAID"
PLACARDS REQUIRED COMBUSTIBLE	THIS IS TO CERTIFY THAT I AM THE CONTINUING TRANSPORTER AND HAVE ACCEPTED THE DESCRIBED SHIPMENT IN PROPER CONDITION FOR TRANSPORT TO THE IDENTIFIED H.W.F.	SIGNATURE OF CONTINUING TRANSPORTER	VEHICLE I.D. STATE MA COMPANY NO. FOR TRAILER, MARINE OR RAIL			

INDICATE ANY DIFFERENCE BETWEEN MANIFEST AND SHIPMENT AND LIST REJECTED MATERIALS, INDICATE DISPOSITION OF REJECTED SHIPMENT

HANDLING METHOD

1				
2				
3				
4				
5				

S IS TO CERTIFY THAT THE ABOVE NAMED MATERIALS ARE PROPERLY CLASSIFIED, DESCRIBED, PACKAGED, MARKED AND LABELED AND ARE IN PROPER CONDITION FOR TRANSPORTATION ACCORDING TO THE APPLICABLE REGULATIONS OF THE DEPARTMENT OF TRANSPORTATION AND THE U.S. ENVIRONMENTAL PROTECTION AGENCY.

9/1/81 DATE
1-800-642-2930 GENERATOR'S EMERGENCY PHONE NUMBER
DIFFERENT FROM ABOVE

GENERATOR COPY

009



Gilbert/Commonwealth engineers and consultants

LABORATORY SERVICES
30 NOBLE STREET, READING, PA 19611

GILBERT ASSOCIATES, INC., P. O. Box 1498, Reading, PA 19603/Tel. 215 775-2600

CERTIFICATE OF ANALYSIS

LABORATORY NO: 3894 RECEIVED: 2/12/82 REPORTED: 2/22/82

CLIENT: Canal Electric Company
Canal Plant, Sandwich, MA 02563

SAMPLE DESCRIPTION: Analysis of Fuel Oil
No. 2 Ignition Fuel
Sampled 2/9/82

ASH	%	Trace
CARBON	%	86.50
CARBON RESIDUE	%	Trace
DENSITY	Lbs	7.068
FIRE POINT	°F	195
FLASH POINT	°F	175
GRAVITY	°API	35.2
HEATING VALUE	Btu/lb	19,424
HEATING VALUE	Btu/gal	137,289
HYDROGEN	%	13.00
NITROGEN	%	0.02
OXYGEN	%	0.23
POUNDS SULFUR PER MILLION Btu		0.13
POUR POINT	°F	-55
SULFUR	%	0.25
VISCOSITY	SUS @ 100°F	35.2
WATER (by distillation)	%	<0.10

Respectfully submitted,

T. M. Isert - Technical Consultant
Laboratory Services

OMD

cc: J. F. Kuliga
W. R. Smith
R. A. Rousseau
G. D. Williams✓
B. W. Lyon
R. H. Martin
S. R. Fox

008

TRANSFORMER OIL PURCHASE SPECIFICATION—TEST LIMITS

TYPE OF TEST	ASTM METHOD	UNINHIBITED	INHIBITED	
			TYPE I	TYPE II
Aniline Point, °C	D 611	78 max	78 max	78 max
Color ^a	D 1500	0.5 max	0.5 max	0.5 max
Corrosive Sulfur	D 1275	noncorrosive	noncorrosive	noncorrosive
Dielectric Breakdown, kV	D 877	25 min	26 min	26 min
Dielectric Breakdown, kV	D 1816 (0.04" gap)	20 min	20 min	20 min
Water Content, ppm	D 1315, D 1533 (as received)	30 max	30 max	30 max
Flash Point, °C	D 92	140 min	140 min	140 min
Interfacial Tension, dynes/cm, 25°C	D 971 (unfiltered)	40 min	40 min	40 min
Neutralization Number, mg KOH/g	D 974 (modified) ^b	0.025 max	0.025 max	0.025 max
Pour Point, °C	D 97	-40 max	-40 max	-40 max
Power Factor, 100°C, %	D 924	0.3 max	0.3 max	0.3 max
Power Factor, 25°C, %	D 924	0.05 max	0.05 max	0.05 max
Specific Gravity, 60/60	D 1298	0.865—0.910	0.865—0.910	0.865—0.910
Viscosity: Kinematic cs, 40°C	D 445, D 2161	11.0	11.0	11.0
SUS, 40°C	D 88	62	62	62
Oxidation Inhibitor Content, % by wt	D 2668 ^c	0.0	0.08 max	0.3 max
Sludge-Free Life (SFL) measured at 8-hr periods, hrs	(Doble Procedure) ^d	40 ± 8 hr	64 min	80 min
&				
Power Factor Valued Oxidation (PFVO)	(Doble Procedure) ^d	See attached graph for limit curve	— —	— —
(or)				
Oxidation Stability (acid/sludge)	D 2440 ^d			
72 hours: % sludge by wt		0.15 max	0.15 max	0.1 max
Total acid no, mg KOH/g		0.5 max	0.5 max	0.3 max
164 hours: % sludge by wt		0.3 max	0.3 max	0.2 max
Total acid no, mg KOH/g		0.6 max	0.6 max	0.4 max
(or)				
Oxidation Stability (Rotating Bomb), minutes	D 2112 ^d	— —	195 min	220 min

007



COM Electric

2421 Cranberry Highway
Wareham, Massachusetts 02571

POST CLASS

MR. GREGORY A. ROSCOE
U. S. ENVIRONMENTAL PROTECTION AGENCY
P. O. BOX 3254
RESTON, VA 22090

006

